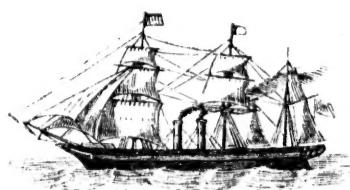


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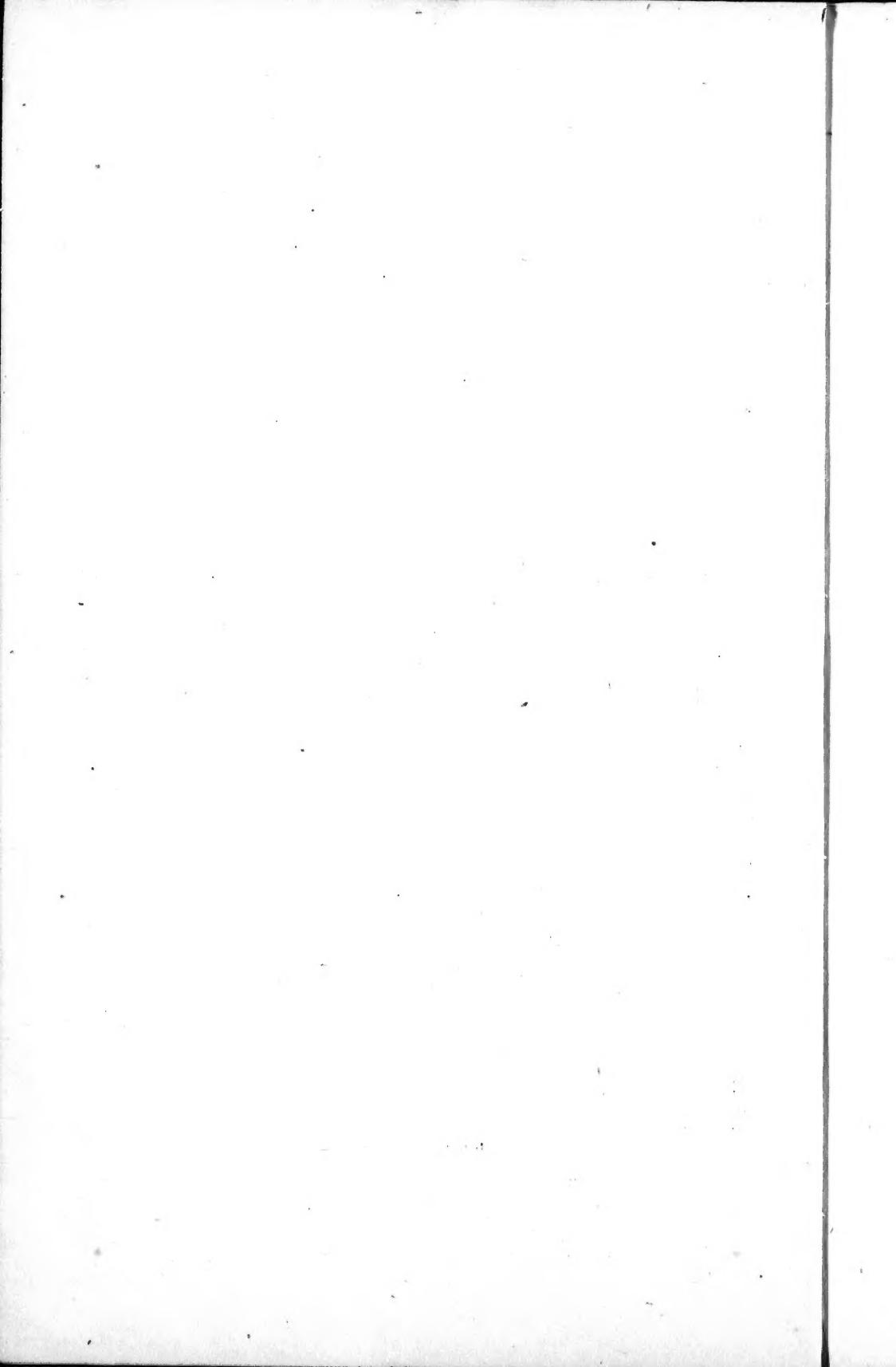
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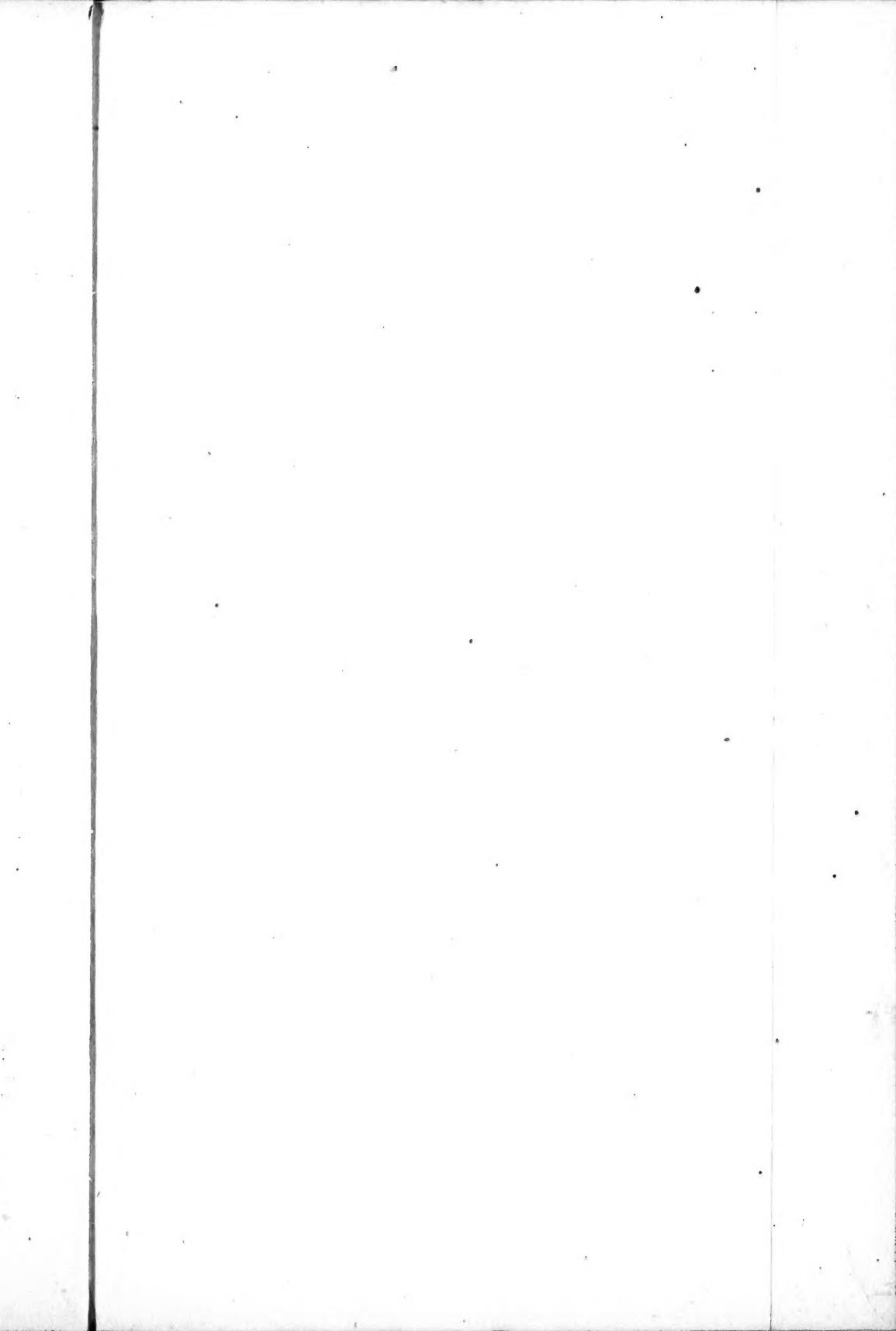
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REPORT
ON
Grand River Navigation:
BY THE
BOARD OF TRADE
OF
BRANTFORD.



BRANTFORD:
PRINTED AT THE OFFICE OF THE BRANTFORD "COURIER."
1867.

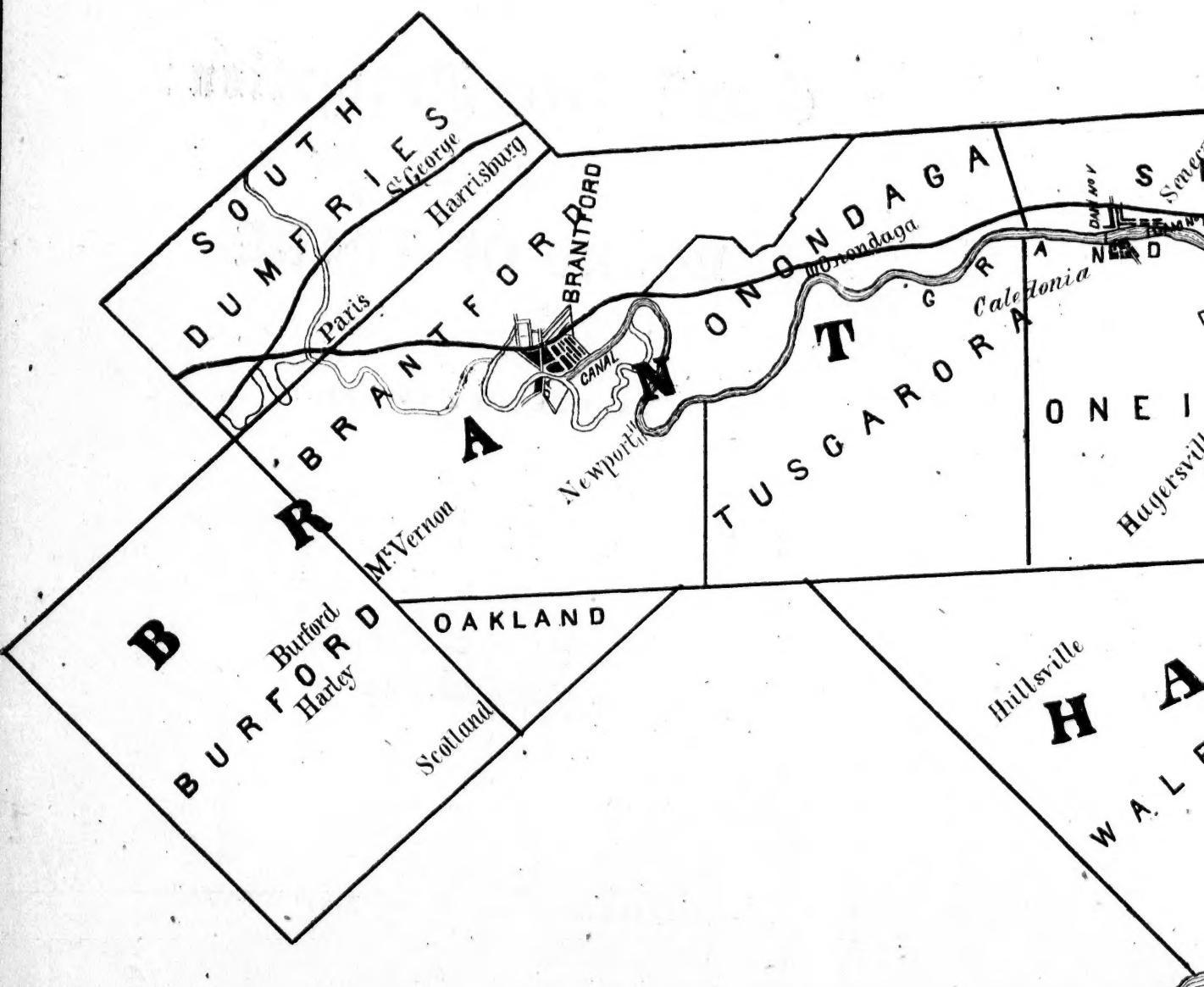


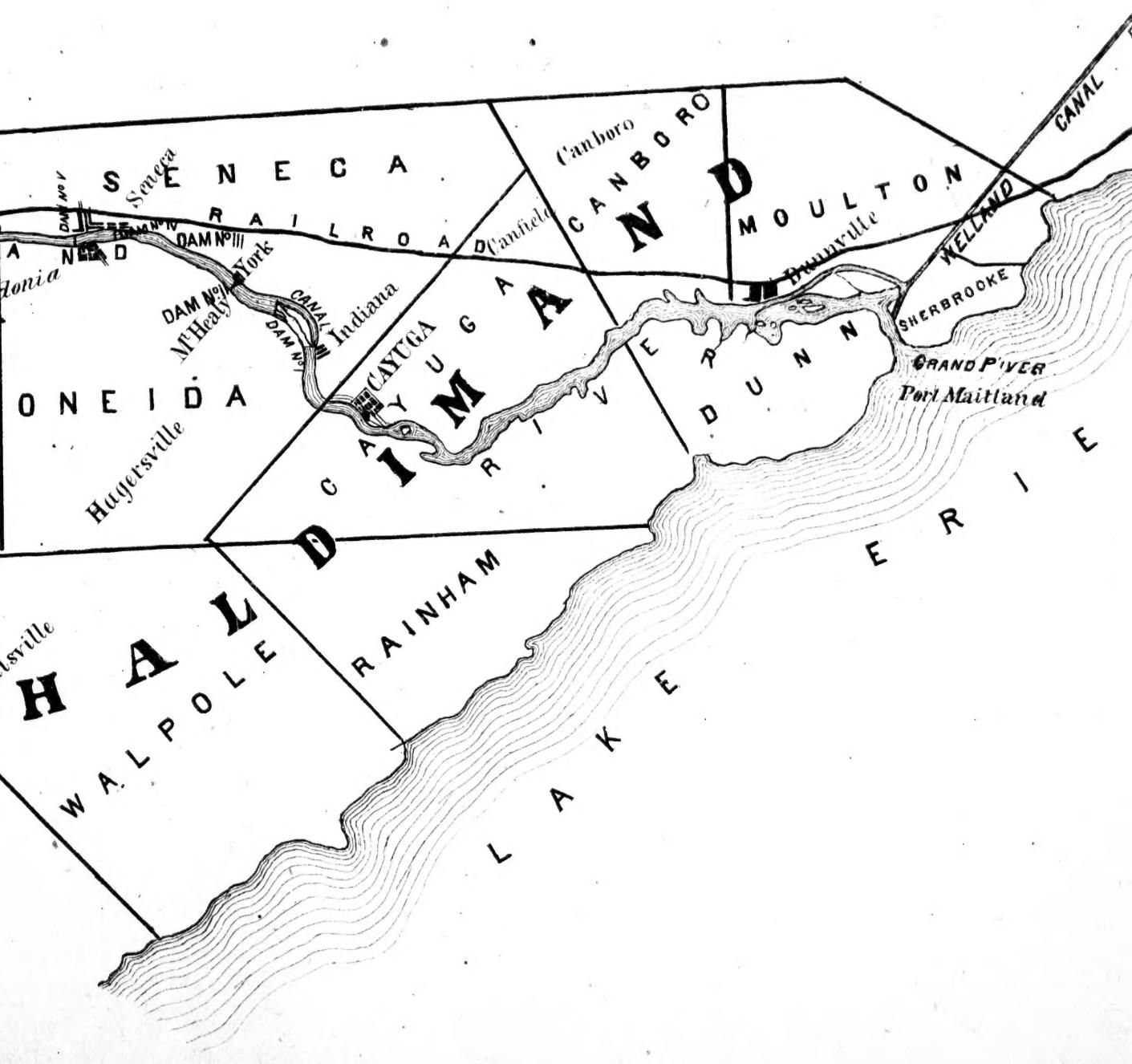


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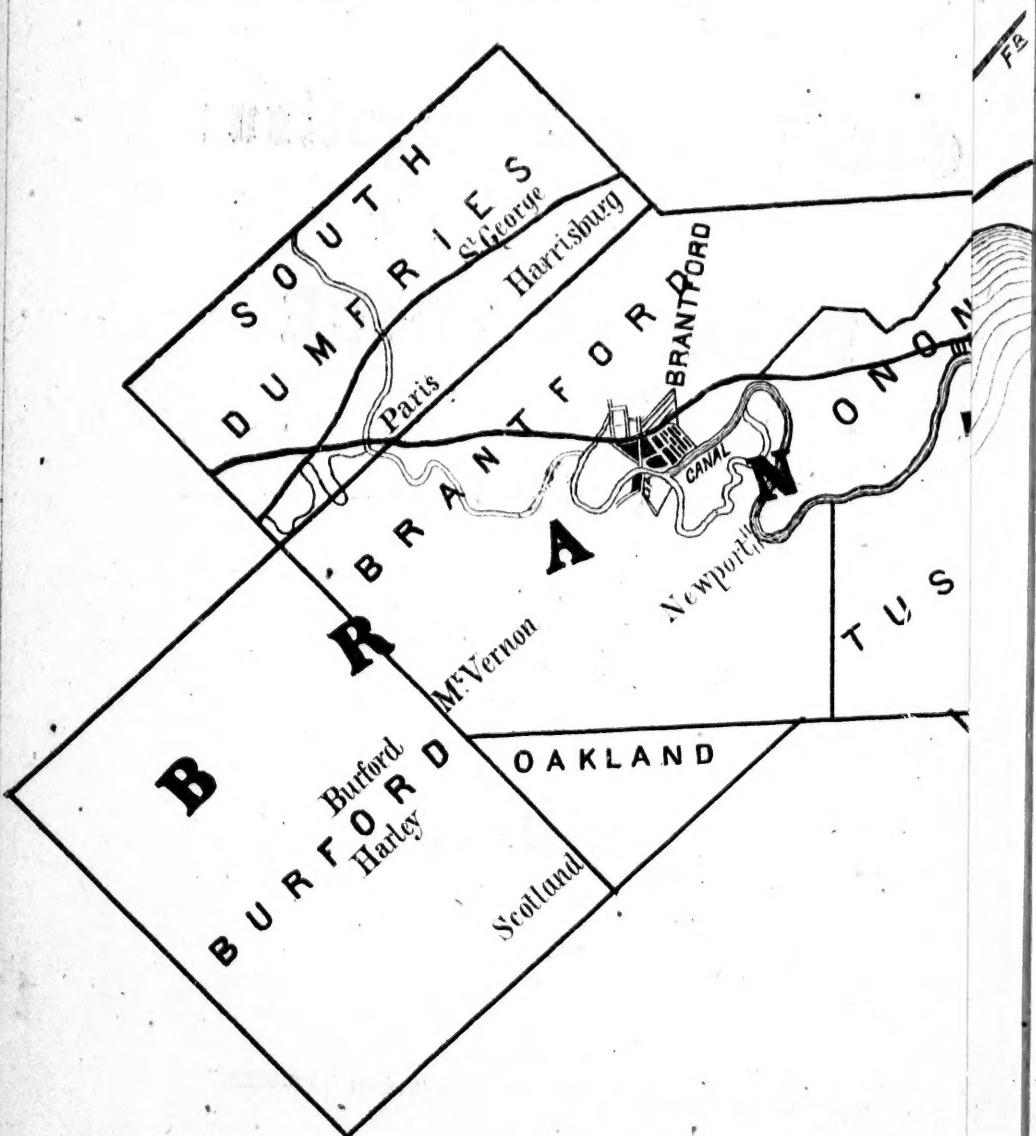




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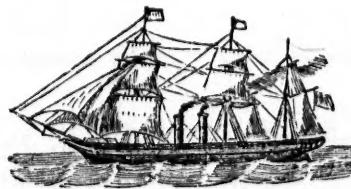
Grand River Navigation:

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Report on Grand River Navigation.

The Board of Trade of the Town of Brantford, considering that the Agricultural, Commercial and Manufacturing interests of the Counties of Brant and Haldimand would be most materially benefited by the renewal of the Grand River Navigation ; and considering that this most important outlet for the surplus products of these counties has, since the building of railroads, been allowed to fall into disuse. Experience is proving that railroads are incapable of removing our produce at those seasons when most required, and thus large amounts of grain, &c., annually seek an outlet through the shipping points of the Waters of Lake Ontario, which formerly passed through the Grand River, and instead of assisting to build up our towns and villages, has been diverted from this natural channel for want of proper shipping facilities. From surveys and estimates caused to be made by the Council of the Town of Brantford, a statement of which will be included in this report, it will be seen that the improvements and repairs required are not of such magnitude but that they might be easily compassed. To effect this object the Board of Trade have thought it expedient to appoint a Committee composed of the following parties, viz.:

I. Cockshutt.....	Brantford:
J. Elliott (Mayor).....	"
H. Yates.....	"
E. Roy.....	"
J. Edgar.....	"
R. Turner.....	"
Danl. Brook.....	"
H. B. Leeming.....	"
Alex. Robertson, B. B. N. A.....	"
A. Cleghorn.....	"

D. Thompson, M. P. P.....	Indiana.
J. Merrell	Onondaga.
R. McKennon.....	Caledonia.
M. Hareourt.....	York.
J. Herschell.....	Cayuga.
A. Brownson.....	Dunnville,

whose duty it will be to endeavor to devise such means as may ultimately tend to the completion of this most important work.

In compliance with the foregoing resolution, the Committee, after a careful consideration of the subject, have thought it advisable to have a full and careful report made of the present position of the navigation, embracing its capabilities and the prospective advantages that must result to the Counties of Haldimand and Brant by the carrying out of this work.

The Grand River being one of the largest and most important streams in the Province, and passing through two of the most fertile counties of Ontario, and with an abundant supply of water at all times for the purposes of navigation, as also for the mills and manufactures now in operation in all the towns and villages, and which would under an improved navigation be vastly increased, makes this work a thoroughly practicable undertaking, and must commend itself to the public at large, as not only being likely, under proper management, to be made remunerative, but as conferring a benefit upon every inhabitant of the two counties. When the position of the

Grand River is taken into consideration as a feeder to the Welland Canal, thus enabling produce and merchandize of all kinds to be forwarded direct to the leading markets of our Dominion, as well as to those of the United States; as also the great advantages that would be conferred upon the merchant in importing the heavier class of goods direct from the various importing markets of the country at lower rates of freight and less transhipment than by any other route. Another great and important consideration in favor of improving this navigation is its proximity to the great coal fields of America; its mouth, with its splendid harbor, being only from 30 to 40 miles from the town of Erie on the south side of that Lake—one of the principal outlets for the vast coal trade of Pennsylvania—and which would enable this great staple to be imported and laid down in our towns

without breaking bulk, and at as low rates of freight as to any markets in the Province of Ontario;—thus making all our towns, especially that of Brantford, depots of coal for the supply of a large section of the Province. From the position of Brantford, with its railway connection and probable railway extension to Harrisburgh, connecting with the Great Western, and opening the markets of Guelph, Galt and points northward towards Lake Huron, it would enable shippers of this staple to lay it down at a lower cost than by any other route, at the same time tending to increase the receipts of the navigation. Salt, also, as an imported article could be brought by this route and supplied to the same markets at as low a cost as by any other. The products of these counties—such as grain, plaster, lime-stone, lumber, cord wood, railroad-ties, staves, &c.—would at all times furnish return freights to such vessels or barges as might be employed in the coal or other trades.

The following statistics of the various townships, taken from the Census of 1861 (and which have much increased since that date), will show the vast interests to be taken into consideration as being to a very great extent tributary to the trade of the Grand River:

Taking, first, the Townships of Haldimand, immediately on the banks of the river, we have the

Township of Dunn, on west side of the harbour, with 10,458 acres assessed, of which 4,622 are under cultivation and 5,836 in timbered lands, estimated cash value of farms \$284,228, and with a population of 955.

Moulton and Sherbrooke, united townships, with 18,968 acres assessed, of which 7,297 are under cultivation and 11,671 in timbered lands, estimated cash value of farms \$258,516, and population of 1,791.

South Cayuga, with 13,296 acres assessed, of which 7,172 are under cultivation and 6,124 in timbered lands. Cash value of farms \$339,080. On the banks of the river in this township are valuable limestone quarries.

North Cayuga, with 30,308 acres assessed, of which 14,036 are under cultivation and 16,272 in timbered lands. Cash value of farms \$565,910, and population of 2,919. In this township is an

extensive bed of plaster, from which thousands of tons are annually taken and shipped to foreign markets. Plaster has recently been discovered near the village of Cayuga. There is also an extensive and valuable freestone quarry about three miles from this village.

Oneida, with 34,924 acres, assessed of which 20,894 are under cultivation and 14,033 in timbered lands. Cash value of farms \$1,037,104 and population 3,050. In this township are also extensive plaster beds, from which, during the past year, from six to eight thousand tons have been taken.

Seneca, with 35,105 acres assessed, of which 20,206 are under cultivation and 14,899 in timbered lands. Cash value of farms \$927,069, and population of 4,577.

The following townships, although in the county, are not immediately on the river, but are also mainly depending upon this outlet and add materially in supplying produce, &c., for shipment.

Rainham, with 23,745 acres assessed, of which 13,255 are under cultivation and 10,490 in timbered lands. Cash value of farms \$699,732, and a population of 2,116. Grain market at Cayuga.

Walpole, with 60,296 acres assessed, of which 32,592 are under cultivation and 27,704 in timbered lands. Cash value of farms \$1,491,918, and a population of 4,842. Grain market Cayuga.

Canboro', with 18,281 acres assessed, of which 8,371 are under cultivation and 9,910 in timbered lands. Cash value of farms \$440,-606, and population of 1,252. Grain market Dunnville.

In the County of Brant, the townships situated on the river are:

Onondaga, with 20,762 acres assessed, of which 14,873 are under cultivation and 5,886 in timbered lands. Cash value of farms \$748,-265, and population of 2,064.

Tuscarora—An Indian Reserve—Containing 42,000 acres. This township must in the course of time be also numbered amongst the producing townships.

Brantford, with 64,553 acres assessed, of which 53,358 are under cultivation and 11,198 in timbered lands. Cash value of farms \$3,048,482, and population of 6,904.

The townships in this county that contribute to the trade of the river through the market town of Brantford are Burford, Dumfries and Oakland, all fine and well-cultivated townships. A portion of the trade of Burford and Dumfries is now diverted from this channel by the Great Western Railroad, which intersects them.

Burford, with 52,203 acres assessed, of which 30,372 are under cultivation and 21,831 in wood lands. Cash value of farms \$1,610,060, and population of 5,599.

Dumfries, with 42,728 acres assessed, of which 33,934 are under cultivation and 8,794 in wood lands. Cash value of farms \$2,037,649.

Oakland, with 10,401 acres assessed, of which 7,533 are under cultivation and 2,868 in timbered lands. Cash value of farms \$402,978, and population of 1,087.

The townships of Norwich and Townsend, although not in the County of Brant, contribute largely through the market of Brantford to amount of produce, &c., requiring shipment, and would from these two townships be vastly increased with an improved navigation.

Having given the summary of the various townships immediately interested in the improvement of the navigation, we will now give some statistics of the villages and towns (as forming the various markets for the delivery of farm products of all kinds), with their importance and capabilities as points for manufactoryes of all kinds.

Commencing from the mouth of the river, we have the village of Dunnville, in the township of Moulton, about six miles from the harbour on Lake Erie. Here is the first dam made for the purpose of feeding the Welland Canal, and forms the entrance to that canal from the upper waters of the river. The navigation of the river would be materially aided by the construction of a lock, allowing vessels to pass through into Lake Erie without being obliged to traverse six miles of the canal to reach the harbour, with additional tolls to pay thereon. Should this undertaking be progressed with, a proper representation to the Government might probably overcome this difficulty, as the navigation has been obstructed by the feeding the canal from the river. An extensive water power for all manufacturing purposes is, however, provided by this dam. Here is a station

of the Grand Trunk Railway, 40 miles from Buffalo. There are at present two flour mills, two saw mills and a woollen factory, and a population of 2,000.

The following are some of the leading articles exported, which may appear large, but this being the Port of Entry of the river, as also the entrance to the canal, they embrace to a large extent receipts from points up the river:

RETURNS FROM COLLECTOR'S OFFICE FOR THE FISCAL YEAR ENDING JUNE 30TH, 1866.

Produce of mines.....	\$80 00
Produce of the forest.....	86,154 00
Animals and their products.....	104,455 00
Agricultural products.....	197,086 00
Manufactures.....	2,558 00
Other articles.....	60 00
Total.....	\$380,393 00

These are some of the leading articles making up the above:

Staves.....	475½ M.
Firewood.....	10,023 cords.
Railroad ties.....	8,883 "
Butter.....	22,664 lbs.
Eggs.....	5,040 dozen.
Barley.....	123,664 bush.
Seeds.....	1,696 "
Pear.....	6,359 "
Wheat.....	62,437 "

RETURNS FROM COLLECTOR'S OFFICE FOR THE YEAR ENDING JUNE 30TH, 1867.

Produce of mines.....	\$8 00
Produce of the forest.....	76,128 00
Animals and their products.....	69,683 00
Agricultural products.....	99,612 00
Manufactures.....	3,721 00
Total.....	\$249,152 00

These are some of the leading articles making up the above:

Staves.....	1,259½ M.
Plank and boards.....	4,165 M feet.
Firewood.....	9,903 cords.

Railroad ties.....	8,970	pieces.
Butter.....	35,538	lbs.
Eggs.....	10,850	dozen.
Barley.....	142,847	bush.
Oats.....	7,953	"
Peas.....	2,423	"
Wheat.....	11,424	"
Plaster.....	\$3,469	

From the Welland Canal report, showing the number of vessels passing into the river from the canal for the past year were;

Total Steam vessels.....	69	2,878	tons.
" Sailing and other vessels.	158	16,112	"
" Other crafts.....	10	1,072	"
" American steamer.....	1	25	"
	238	20,094	"

From Canadian to Canadian ports:

Total vessels.....	56	2,098	tons.
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From Canadian to American ports:

Total vessels.....	182	16,996	tons.
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At this point it has been difficult to show the local purchases from the total shipments.

Village of Cayuga, in the township of North Cayuga, is the county town of Haldimand, and 15 miles from Dunnville. Here is the head of deep water navigation, produce, &c., from above this requiring transhipment. As will be seen by the Engineer's report, at this point it is proposed to dam the river. Should this be carried out, it will give to this village the great advantage of a valuable water power. Here at present there is a steam flour mill, with elevator for unloading wheat from barges, with several storehouses, with a capacity of 60,000 bushels. An elevator is being added to one of them for the purpose of loading and unloading grain, &c., from the upper points of shipment, which will effect a great saving in time and expense, and be the cause of much larger shipments than formerly.

The total purchases of grain for the past year have been 160,000 bushels, of which the principal part was barley.

A large amount of lumber, staves, plaster, coal, &c., is transhipped here.

Plaster has recently been discovered within the town plot, and there is an extensive and valuable free-stone quarry within three miles of the village. It is six miles from Canfield, a station on the Grand Trunk Railway, and has a population of 800.

The village of Indiana, in the township of Seneca, and three miles from Cayuga, has a large flouring mill, with a capacity of 300 bbls. per day, saw mills, distillery, carding mill and pail factory. A bridge of 500 feet in length connects this township with Oneida. Here is the first of the eight locks required to make the upper part of the river navigable. The dam here gives a fall of 12 feet, forming a most valuable water power. Population 300. At the entrance to the Indiana cut is a plaster mill, grinding annually 3,000 tons, one-half of which is exported, the balance sent to Brantford and Caledonia.

Mount Healy—a small village in the township of Oneida and four miles from Cayuga, with good water power. Now in operation, a flour, plaster and saw mill, the plaster mill grinding about 1,000 tons a year. Population of 150.

York, in the township of Seneca and six miles from Cayuga. The river is spanned here by a bridge 680 feet long. The dam here also supplies a good water power, has a flour mill with a capacity of 100 bbls. per day, oatmeal mill with two run of stones, plaster mill grinding 2,000 tons a year. About a mile from this village are the large plaster beds of Oneida. Of late years there has been no grain purchased except for milling purposes. The population is 500.

At Lock No. 3 is also an extensive water power, with saw mill and cabinet factory in operation.

At the next lock is the village of Seneca, now incorporated with Caledonia. Has a flour and saw mill and woollen factory.

Caledonia—A station of the Grand Trunk Railway, connected with Hamilton, distant 14 miles, by a gravel road, and 11 miles from Cayuga, situated in the township of Seneca and Oneida, connected by a bridge of 750 feet span. Here is also an extensive water power of $7\frac{1}{2}$ feet fall. There are two large flour mills, with a capacity of 80,000 bbls. per annum, a saw mill, woollen factory, two foundries

and cabinet factory. From here six or eight hundred thousand West India and barrel staves have been shipped for three years past. Formerly this was one of the largest grain markets on the river, but since the navigation has fallen into disuse, the whole produce trade, except what is purchased for milling, has been diverted to Hamilton, but from its central position would again become a large market, with an improved state of navigation. Population of 1,400. From this place is level water to within two miles of the town of Brantford.

Onondaga, in the township of Onondaga, a station on the Grand Trunk Railway, nine miles from Brantford, has a steam flour mill, with two run of stones, three steam saw mills and grain storehouses. Formerly it was also a considerable grain market. 1,000,000 feet of lumber have been shipped by railroad from here during last year. The celebrated sulphur springs of Tuscarora are about three miles from this village.

Newport, a small village in the township of Brantford, with storehouses for grain: Formerly, a good deal of produce was shipped from here. 500,000 feet of lumber were sent from here during the past year; also a quantity of staves. With an improved navigation this would become a shipping point for a large amount of produce—timber, staves, &c., from the townships of Windham and Townsend. Plaster has recently been discovered in the banks of the river at this place.

Middleport, a small village six miles from Caledonia, a station on the Grand Trunk Railway. A large amount of lumber is annually shipped from this station. About 1,000,000 feet were forwarded during the past season. It has a population of 200.

Cainsville, on the Grand Trunk Railway, situated at the locks of the canal from Brantford, with facilities for shipping grain, staves and lumber by navigation. About 1,000,000 feet of lumber were sent by rail during the past year. It has a population of 300.

The last of the locks are about two miles from Brantford, at the end of a canal of that length from the town. Here is one of the best water powers on the whole river, having a fall of 33 feet, with three locks of 11 feet fall each. Here there is a large flax mill, now engaged working up the produce of some 500 acres sown last season; a large

distillery, importing some 30,000 or 40,000 bushels of corn annually; also a paper mill, capable, with a full supply of water, of turning out from 250 to 300 tons of paper a year. The woollen factory, also on this canal, is turning out 3,000 yards of cloth per week.

Brantford is the head of the navigation of the river, and is thirty miles from the deep water at Cayuga. The improvement of this navigation was commenced here in 1840, and gave the first impetus to this now flourishing town, and would again add much to its prosperity by its revival. Commercially, few towns possess greater advantages than this, it being in the centre of one of the finest agricultural districts in the Province, and possessing a most extensive water power, with capabilities of becoming one of the first manufacturing towns in Ontario. It was in former years one of the largest grain markets in the Western Province, and nothing would again establish its reputation as a market so much as by the improvement of the navigation, thus enabling produce, &c., to be shipped direct to any markets in the Province, and to compete with Hamilton or Toronto. For want of these shipping facilities, thousands of bushels of grain are unusually diverted from this channel.

The following are some of its leading manufactures:

Four large flour mills, with a capacity of grinding 120,000 bbls. per annum.

Two foundries and engine works, employing some 200 hands.

Two tanneries.

Stoneware works, importing 300 tons of clay per year from New Jersey.

Planing mills, cabinet works, brewery and many other small factories, with a large number of extensive grain storehouses situated on the canal, offering every facility to grain merchants to ship by this route.

Total grain of all kinds purchased during the past year was 260,000 bushels—140,000 bushels of barley, the balance being made up of wheat, peas and oats.

A large amount of other products are shipped from this market, such as 13,000 bushels potatoes, 1,700 barrels apples, and 400,000 staves. Also a large number of cattle, sheep and hogs, showing that

this point still retains its position as one of the leading markets, and would be vastly increased with greater shipping facilities.

The following are the returns from the Collector of Customs' Office for the year ending 30th of June, 1867:

Produce of the mine.....	\$1,930 00
Produce of the forest.....	4,467 00
Animals and their products.....	33,815 00
Agricultural.....	70,502 00
Other articles.....	8 00
Manufactories.....	200 00
Total.....	\$110,922 00

A large amount of goods are here imported direct from European markets. At this point the advantages of a navigation are incalculable, as offering to the large mercantile and manufacturing interest, the increased shipping facilities so essential to the prosperity of this town; enabling all the heavier class of goods, such as pig iron, bar iron, nails, grindstones, coals, salt and many other articles, to be laid down at lower rates of freight than by any other route.

The population of Brantford in 1866 was about 8,000.

Space will not admit of a summary being made of any of the totals in either the towns or townships, but by a careful consideration of the foregoing statistics, it will be evident that there is a large extent of country that must be directly benefitted by the proposed work, as not only opening up home markets at which the farmer would be enabled to secure the full value of his farm products, but securing permanently to the various towns their extensive and valuable water powers, which would ultimately tend to the establishment of large manufactures in all the villages and towns, as offering such great facilities in importing the various raw materials required for carrying on the same.

It is proposed, as far as it has been able to collect such information now, to give some estimate of the probable rates of freight that would be charged on the various articles of import and export under an improved state of navigation. They have been collected from reliable sources, being from vessel owners for years engaged in this trade. By a careful comparison, it will become evident that grain, for exam-

ple, purchased at any points would be in as favorable positions for reaching the larger markets of either our own Dominion or those of the United States as at any points of our inland waters.

The following are the rates of freight for past season on merchandise to points on the Welland Canal and from thence to Brantford:

	From thence to		
	St. Catharines.	Colborne.	Brantford.
General goods, per 100 lbs.....	\$0 15	\$0 20	10 cts.
Bar iron, nails, crockery, per 100 lbs. 0 12½	0 15	10 "	"
Pig iron, &c., per 2,240 lbs.....	2 00	2 50	..
Salt per bag.....	0 20	0 25	..

These rates are from Montreal.

Coal per ton from Erie to Cayuga.....	\$1 00
Do. do. Cayuga to Brantford.....	0 38

This with 4 feet navigation.....	\$1 38
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Salt from Buffalo to Brantford.....	\$0 20
Plaster from various points to Erie, per ton, F. O. B.....	1 00

Average rates on grain from different points:

From Cayuga to Buffalo, per 60 lbs.....	3½ cents.
Do. do. Port Dalhousie, St. Catharines or other points.....	3½ "
Do. Brantford to Buffalo.....	6 "
Do. do. Port Dalhousie or points on Welland Canal.....	6 "

These rates include canal and river tolls, they being paid by vessel.

Extracts from Mr. Molesworth's Report.

The entire length of the river from Brantford to Dunnville is $51\frac{1}{2}$ miles; thence to the entrance into Lake Erie by Welland Canal 6 miles—by lock at Port Maitland 200 feet long. The dam at Dunnville has raised the water 9 feet; depth of feeder to the canal is from 7 feet 9 inches to 8 feet 6 inches. No improvement required to Cayuga. Depth of water to that point from 12 to 22 feet.

There are six dams. Their general condition is good, only those at Mount Healy, Indiana and York requiring any repairs.

There are eight locks, and, although built of small rubble stone, with timber bonded through them, with horizontal timbers built on the face of the walls, with floors of timber. Locks from 1 to 5 are on rock foundations. These locks, although built of indifferent material, have kept well together, and can be put in order for the sums given in the estimates. The Brantford Locks, although built of the same materials, have been slighted in their construction and the walls badly put together. The middle and lower locks have had their side walls injured by pressure of earth from behind, which occurred shortly after their construction. Since that they do not appear to have changed, and may stand in the same condition for some time, and in estimate only include a sum for repairs, and not for reconstruction. The chamber of lower lock will have to be deepened for the 4 feet, or 7 feet 9 inches in navigation, and this can only be done by entire reconstruction of the lock, which is included in those estimates.

Estimate No. 1 is for cost of ordinary repairs. This covers cost of putting dams and locks in serviceable condition, without reference to deepening the navigation. Repairs of the locks most urgent:

Indiana Lock	One set of new gates.
Seneca Lock	One set lower gates.
Caledonia Lock	One set lower gates.
Brantford Upper Lock	One set upper gates.
Brantford Lower Lock	One set lower gates.

The other repairs should be carried out during the season, if possible.

Estimate No. 2, for 4 feet depth of water. The principal part of this work will consist of excavations of rock, loose rock, gravel, mud and clay, and removing logs and boulders from the bed of the river, with 12 miles of tow path. The repairs of dams and locks embraced in Estimate No. 1 will form part of this work, excepting repairs on Lower Brantford Lock, which in very low water has only 22 inches on the lower mitre sill and 2 feet 6 inches in the chamber, and for a 4 feet navigation will require an entire reconstruction, which is included in this estimate.

Estimates Nos. 3 and 4, for 6 feet and 7 feet 9 inches water throughout.

In these estimates the dams at Indiana, Mount Healy and York are to be raised 21 inches each, thereby reducing the amount of excavation. The locks are also in both cases to be deepened and increased in length from 96 feet to 150 feet, the latter being the length of locks on Welland Canal.

Large reduction might be made in No. 4 estimate by reducing the excavation between Indiana and Cayuga to 4 feet in depth, as in No. 2 estimate, by constructing a dam and lock above Cayuga Bridge, giving a lift of 4 feet; and it would be well to consider whether the disadvantage of the lock and dam, in amount of cost, and detentions in passing through, would be more than counterbalanced by the saving effected.

Entire length of the navigation from Brantford to the mouth of the river is $57\frac{1}{2}$ miles, and of this distance there is over 7 feet 9 inches depth of water, as follows, viz.:

From Mouth to Cayuga	- - - - -	$20\frac{3}{4}$	miles.
" Indiana to Caledonia	- - - - -	$2\frac{1}{4}$	"
" Caledonia to Brantford	- - - - -	$17\frac{1}{4}$	"
Distance from Mouth to Caledonia	- - - - -	$40\frac{3}{4}$	"

Leaving $16\frac{3}{4}$ miles of the river and canal to be deepened. In deepening and improving the present navigation, it should be between the 4 feet and the 7 feet 9 inches. The 4 feet would admit the passage of canal boats and barges, drawing $3\frac{1}{2}$ feet water, with a carrying

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capacity of 4,500 bushels of grain. The 6 feet navigation would give a larger class of barges, with greater capacity, but would not be sufficient to induce lake vessels to pass through, and would, therefore, entail transhipment; but the 7 feet 9 inches would admit vessels drawing 7 feet, with a capacity of 8,000 bushels and upwards, and capable of proceeding to any lake ports or Montreal, and the locks would be large enough to admit any vessels passing through the Welland Canal.

Estimate No. 1.

Cost of ordinary repairs to locks, dams, &c.	\$4,984 00
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Estimate No. 2.

Cost of giving 4 feet depth of water, including estimate of excavations, repairs of locks and reconstruction of lock at Brantford	44,664 73
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Estimate No. 3.

Cost of giving 6 feet depth of water, raising of dams and locks renewed	163,235 38
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Estimate No. 4.

Cost of giving 7 feet 9 inches depth of water:

Cost of excavations	\$228,738 55
Alteration of locks to 150 feet in length	54,672 00
Raising dams	3,150 00
Twelve miles tow path	3,600 00
Engineering expenses	29,015 95
	----- \$319,175 50

Cost of obtaining 7 feet 9 inches water between Indiana and Cayuga by a lock and dam above Cayuga, giving 4 feet lift and excavation to 4 feet, as per Estimate No. 2:

Estimate of lock and dam	\$23,500 00
Excavation of 4 feet	9,636 30
Land damages	3,000 00
	----- \$36,136 30

The cost of excavation between Indiana and Cayuga is:

By No. 4 Estimate	\$36,327 80
Less by cost of lock, &c.	36,136 30
	----- \$50,191 50

Total cost for 7 feet 9 inches water, without dam at Cau-	
uga, is.....	\$319,175 50
Less saved by dam.....	50,191 50
Total.....	\$268,984 00

This report was prepared and the necessary surveys made by order of the Council of the Town of Brantford, and submitted by Mr. Molesworth.

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The following is from the books of the Navigation Company:

It is difficult to ascertain the actual amount originally expended in the construction of the navigation, but it may be fairly estimated that up to the present time the sum of \$400,000 has been laid out in the construction of the works.

In the amounts credited for tolls, they are for the most part made up from the shipments of lumber, staves and plaster. Of late years no grain or produce has been forwarded.

It will be seen that, during the past six years, the sum of \$41,462 has been paid from the proceeds of the navigation to the Treasurer of the town of Brantford.

The property at present owned by the Navigation Company is as follows:

In the Town of Brantford:

All that property situated on the bank of the canal on which the present storehouses are built, for which ground rent is paid. This is especially valuable as offering additional building sites for shipping purposes. Also to the east of Mr. Watt's mill, 5 acres of land, which is fairly estimated at	\$300 00
At Onondaga, 2 village lots.....	70 00
At Seneea, 14 " "	350 00
At Lock No. 3, 30 acres, at \$25	750 00
At Indiana, 10 village lots	400 00

At the head of Indiana Canal, there are several acres of low land that in time will be of value.

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Receipts and Expenditures of Navigation Company from 1860 to 1866.

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1860 and 1861:

Receipts:

To Rents for two years.....	\$13,996 15
" Tolls " "	10,231 15½
	\$24,227 30½

Expenditure:

" Previous debts	\$1,223 74½
" Construction account.....	6,438 14
" Contingent account.....	773 03½
" Salaries.....	3,385 48
" Paid Town Treasurer.....	11,800 00
" Balance on hand.....	606 90½
	\$24,227 30½

1862.

Receipts:

" Rents	\$6,248 87
" Tolls	6,552 92
" Balance due 1861	606 90½
	\$13,408 69½

Expenditure:

" Construction account.....	\$3,310 17½
" Salaries	1,758 27
" Contingent account.....	445 05
" Paid Town Treasurer.....	7,000 00
" Balance on hand.....	895 20
	\$13,408 69½

1863.

Receipts:

" Rents	\$6,354 90
" Tolls	4,194 96½
" Village lots	43 00
" Fines	20 00
" Use of lighter	15 00
" Balance of 1862	895 20
	\$11,523 06½

Expenditure:	
" Construction account.....	\$1,819 95½
" Contingent account.....	455 91
" Fines refunded.....	20 00
" Salaries.....	1,896 00
" Paid Town Treasurer.....	7,104 82
" Balance on hand.....	226 38
	<hr/>
	\$11,523 06½

1864.

Receipts:	
" Rents.....	\$6,291 60
" Tolls.....	5,286 40½
" Balance, 1863.....	225 87½
" " Difference, 1863.....	55 86
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	\$11,859 74

Expenditure:	
" Construction account.....	\$2,300 30
" Contingent account.....	525 26
" Salaries.....	1,645 00
" Paid Town Treasurer.....	7,300 00
" Balance.....	89 17
	<hr/>
	\$11,859 74

1865.

Receipts:	
" Balance.....	\$263 64½
" Tolls.....	4,854 08
" Rents.....	5,738 56
" Construction account.....	85 20
" Sale of land.....	62 00
" Loss on premium on bills.....	40 80
" Due Superintendent.....	13 67
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	\$11,057 95½

Expenditure:	
" Construction account.....	\$4,829 97½
" Contingent account.....	570 73
" Salaries.....	1,599 00
" Paid Town Treasurer.....	4,058 25
	<hr/>
	\$11,057 95½

1866.

Receipts:	
" Balance.....	\$31 08
" Rents.....	5,235 61½
" Tolls.....	3,489 43½

" Sale lands	255 34½
" Premium on bills	45 40
" Contingent account	4 00
" Construction account	74 16
	————— \$9,135 03½

Expenditure:

" Construction account	\$3,185 57
" Contingent account	149 00
" Salaries	667 45½
" Paid Town Treasurer	5,120 52
" Balance on hand	12 49
	————— \$9,135 03½

As a part of the duty assigned to this Committee is to endeavor to devise ways and means for the permanent improvement of the navigation.

They have, after a careful consideration of this portion of the subject, been led to consider that, as the Counties of Brant and Haldimand are most materially interested in the improvement of the navigation, they would recommend that the County Councils be solicited to aid in carrying out the proposed work. That, failing any action being taken by those bodies, the Committee would most strongly urge as the next best method the at once forming a Joint Stock Company under the Limited Liability Act, with a capital of \$50,000 or \$60,000, in shares of \$100 each. The Committee are led to believe that, with proper management, there would be no difficulty in raising the sum required, as many of the leading men of both counties express a readiness to take part in the formation of such a Company.

As the town of Brantford is at present the owner of the navigation, there is but little doubt but that it would be the interest of the town, and would meet with the approval of every ratepayer, if the Council were to consent to throw off a large amount of their claim, taking the balance as stock in the proposed Company; thus simply

adding to the amount of the stock of the Company by the amount of the reduced claim of the town, which would probably bring the total stock to within \$100,000, and place the principal invested at such figures as would insure the payment of a reasonable rate of interest from the receipts of the navigation, at the same time release the Corporation of Brantford from the responsibility of the entire charge of the works.

It will be seen by the Engineer's Report that the sum of \$44,664 is required to complete a 4 feet navigation. Thus the sum proposed for the formation of the Company would be ample to cover all contingencies.

It will be seen by the receipts of the navigation for the past few years (even in its present unsatisfactory condition), that it would produce a sufficient revenue to pay a fair rate of interest on the proposed capital of the Company, and which would be greatly increased with an improved navigation.

In laying this scheme before the public, the Committee have great confidence in its ultimate success, if those interested will give the subject a fair consideration, and give it that support which a work of such importance to the well-being of the two counties so justly merits.

In conclusion, it must be evident that the improvement of the Grand River navigation would greatly increase the facilities and lessen the expenses of transportation through these counties, and thus enhance the value of property by increasing the profits on articles of exportation and lessening the cost on such articles as are imported. This Committee, therefore, feel that they cannot urge too strongly the great necessity of some immediate action being taken, and sincerely trust that the great importance of this work to the Counties of Halldimand and Brant may commend itself to the public at large, and that the report now presented may be the means of awakening an interest on the subject that will ultimately tend to its completion.

And all of which is respectfully submitted.

W. J. IMLACH,
Secretary Board of Trade, Brantford.

Some of the Leading Manufacturies in Brant and Haldimand from Returns of 1861.

COUNTRIES.	Flour Mills.		Saw Mills.		Woolen Factories.		Distilleries.		Tanneries.		Foundries.		Cabinet Factories.		Pail Factories.		
	No. Given.	No. Blks.	No. Wheat Used.	No. Blks.	No. of Feet.	No. Given.	No. Capital Invested.	No. Given.	No. Capital Invested.	No. Given.	No. Capital Invested.	No. Given.	No. Capital Invested.	No. Given.	No. Capital Invested.	No. Given.	
Brant.....	\$ 211,620	11	Ru-h. 360,000 1.0 0.0	92,030	20	\$ 110,700	\$ 13,890,000	1	\$ 15,000	1	\$ 20,000	6	\$ 43,840	\$ 114,000	2	\$ 6,800	2
Haldimand.....	67,000	6	21,244	37	116,400				16,000	3	400		24,000				6,000
COUNTRIES.	No. Given.	No. Blks.	No. Capital Invested.	No. Blks.	No. Capital Invested.	No. Given.	No. Capital Invested.	No. Given.	No. Capital Invested.	No. Given.	No. Capital Invested.	No. Given.	No. Capital Invested.	No. Given.	No. Capital Invested.	No. Given.	
Paper Mills.		Potteries.		Soap and Candles.		Fanning Mills.		Boots and Shoes.		Brick Yards.		Agricultural Implements.		Harness.		Broom.	
Brant.....	\$ 14,000	1	\$ 4,800	1	\$ 4,000	2	\$ 7,300	1	\$ 19,000	1	\$ 70,000	2	\$ 10,821	\$ 22,500	3	\$ 12,400	1
Haldimand.....																	700
Shingle Mills.		Annual Produce.		Annual Produce.		Annual Produce.		Annual Produce.		Annual Produce.		Annual Produce.		Annual Produce.		Annual Produce.	
Brant.....																	

Many additional Mills and Factories have been put in operation since the date of this census.

AGRICULTURAL PRODUCTS-1861.

UBRANT AND TILLED LAND.

TOWNSHIPS.	FALL WHEAT.		SPRING WHEAT.		BALEY.		PEAS.		OATS.		INDIAN CORN.		POTATOES.		
	Acres.	Bush.	Acres.	Bush.	Acres.	Bush.	Acres.	Bush.	Acres.	Bush.	Acres.	Bush.	Acres.	Bush.	
Brantford.....	29,574	211,836	3,609	61,446	1,223	32,990	2,942	91,633	4,017	107,362	1,121	42,150	1,051	115,791	
Burford.....	6,573	90,008	2,450	636	1,430	2,230	96,937	2,223	62,508	6,2	12,612	674	65,977	674	
Dunines.....	8,652	177,194	1,233	23,062	1,248	34,470	1,933	44,747	2,036	70,476	257	7,799	419	61,783	419
Oakland.....	1,574	30,893	618	10,568	191	4,303	444	8,294	532	16,606	2,97	7,418	194	18,376	194
Onondaga.....	2,161	41,161	1,654	28,383	853	26,616	1,432	22,662	4,415	46,465	50	2,301	240	22,403	240
Tuscarora.....	554	11,11	890	13,454	131	3,037	339	7,588	457	16,144	413	10,136	244	13,774	244
Total Brant.....	39,414	561,913	10,359	172,537	4,282	115,936	9,403	225,213	10,727	316,561	2,620	82,317	2,752	293,103	2,752
Camboro.....	203	1,549	754	10,038	297	6,753	691	9,457	947	26,767	98	4,148	115	14,894	115
Cayuga North.....	749	6,032	1,902	27,404	680	16,191	1,415	26,662	1,533	48,545	64	3,125	216	23,266	216
Cayuga South.....	479	3,838	936	16,547	410	9,812	684	13,154	646	18,591	70	2,039	89	12,663	89
Dunn.....	352	2,432	817	17,462	209	6,713	651	12,136	426	18,338	61	2,319	92	13,077	92
Moulton and Sherbrooke.....	395	2,847	822	13,372	262	6,237	647	10,631	750	14,537	183	5,872	224	22,822	224
Oneida.....	3,130	3,003	1,966	27,316	1,152	25,944	1,913	43,213	1,769	61,312	126	4,014	337	59,986	337
Rainham.....	781	5,190	2,059	34,421	1,000	21,387	1,653	33,171	1,476	49,465	97	2,029	165	13,647	165
Seneca.....	2,143	15,034	2,754	41,293	1,127	28,935	2,053	42,317	2,238*	79,832	33	1,105	290	50,495	290
Walpole.....	2,662	20,918	4,218	63,063	2,381	61,320	4,367	10,567	3,930	140,748	109	3,323	435	49,175	435
Total Haldimand.....	10,954	96,850	16,258	250,036	7,475	181,322	13,716	296,338	13,639	458,181	839	28,001	1,963	221,025	1,963